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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re application of

Nileshkumar Trambaklal Dave

Docket No.: C-2567

Serial No.: 10/036,213

Art Unit: 1745

Filed: December 28, 2001

Examiner: Julian A. Mercado

Title: Unitized Fuel Cell Electrode
Gasket Assembly

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facsimile transmitted to the Patent and Trademark
Office (Fax No. 703-872-9306) on
January 22, 2004.

RESPONSE

Barbara Cecere

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

These remarks are in response to the Office Action dated November 14, 2003. Claims 6 and 7 are deemed allowable; claims 1-5 remain for consideration.

Claims 1-3 and 5 are rejected as anticipated by Grasso et al (Grasso).

Grasso discloses "a foam tape 62 is provided between cathode substrate 32 and ...cathode water transport plate 12....A suitable foam tape is grade 4962 neoprene tape manufactured by 3M which contains a two-sided adhesive." Claim 1, lines 5-7, calls for "at least one of said substrates having a foam gasket adhered thereto by said sealant material film during said hot lamination process." In the specification of this application, page 2, lines 19 through page 3, line 3, it is stated that "Interfacial seals between the anode water transport plate 18 and the anode substrate 14, as well as between the cathode water transport plate 27 and the cathode substrate 26 may typically comprise silicone rubber closed cell foam gaskets 35, 36, respectively held in place, prior to compression in making the fuel cell stack, by pressure sensitive adhesive 37, 38.It has been found that if an acrylic adhesive is used, the life of the fuel cell is limited to between 2,000 hours

and 5,000 hours because of gas leakage due to the corrosion of the adhesive. A problem with either adhesive is the extra steps required to produce a unitized electrode assembly 40 (including the catalyst coated membrane and the substrates (with or without diffusion layers), and the extra steps required to produce the flow field seals assembly." The objects of the invention, on page 3 of the specification, include "an improved PEM fuel cell substrate gas edge seal...which can be provided on a high speed production basis...reducing the number of processing steps...that will operate in excess of 10,000 hours without gas leakage."

As shown in MPEP 2113, the Thorpe case is inapposite. Therein, the product made by the prior art process and the product made by the process of which the product by process claim recited were identical. In the present case, the product made by Grasso has the adhesive on the foam in the product. The product recited in claim 1, does not have any adhesive but instead has the sealant material surrounding the foam gasket. Since the products made by the processes are different, Thorpe is not applicable.

The examiner is referred to the second paragraph of MPEP 2113; clearly, the present claim 1 is patentable over Grasso.

MPEP 2131 states: "TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM", except for the three purposes in MPEP 2131.01, none of which are applicable here.

The rejection does not take note of the language of claim 1 quoted above. Since Grasso does not disclose that one of the substrates has a foam gasket adhered thereto by said sealant material during said hot lamination process, Grasso does not anticipate the claim.

Similarly, Grasso does not teach that both foam gaskets are adhered by said sealant material during said hot lamination process as called for in claim 2. Claims 3 and 5 are patentable because they depend from claim 1.


Therefore, reconsideration and allowance of claims 1-3 and 5 over Grasso is hereby requested.

Claim 4 is rejected as obvious over Grasso in view of Barton et al. The inapplicability of Grasso to claim 1 is set forth in the preceding paragraphs. Claim 4 depends from claim 1 and is patentable for that reason. Therefore, reconsideration and allowance of claim 4 over both references is hereby requested.

Allowability of claims 6 and 7 is noted. However, in view of the fact that the rejection of claim 1 fails as described hereinbefore, amendment of claims 6 and 7 is not being made at this time.

Should the foregoing not be persuasive, a telephone call is earnestly solicited.

Respectfully submitted,



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